



SAW Components

SAW band-stop filter

DVB-H, ISDB-TB

| | |
|-----------------------|--------------------------|
| Series/type: | B8763 |
| Ordering code: | B39901-B8763-P810 |
| Date: | June 30, 2010 |
| Version: | 2.0 |

**SAW Components****B8763****SAW band-stop filter****897.50 MHz**

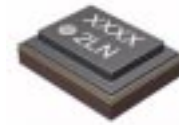
Data Sheet

**Revision history: changes compared to previous iteration issue**

| ISSUE | ORIGINATOR | DETAILED SPECIFICATION CHANGES | DATE |
|------------|---------------|--|--------------|
| LP92H_v1.0 | M. Jungkunz | initial release | Oct 17, 2008 |
| B8763_v1.0 | M. Jungkunz | introduction of filter type name added reference to ISDB-TB added power durability value for GSM850 Tx | Feb 13, 2009 |
| B8763_v2.0 | TAY Wee Chuan | ordering code added | Jun 30, 2010 |

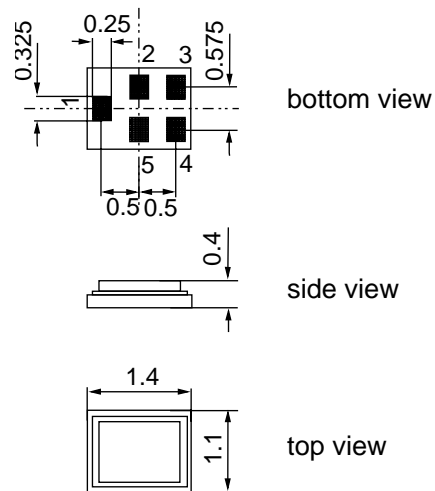
Application

- Low-loss RF band-stop filter for DVB-H and ISDB-TB
- GSM900 Tx suppression
- Very low insertion loss
- Very low amplitude ripple and group delay ripple
- Usable passband of 280 MHz up to 328 MHz
- Impedance at input and output 50 Ω
- Unbalanced to unbalanced operation



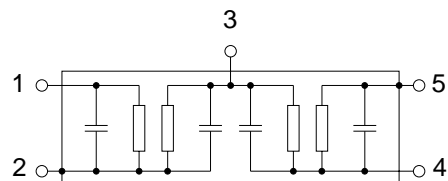
Features

- Package size $1.4 \times 1.1 \times 0.4$ mm³
- Maximum height of 0.45 mm
- Package code QCS5P
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 1 Input unbalanced
- 4 Output unbalanced
- 3 External coupling coil
- 2,5 Case ground





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Characteristics

Temperature range for specification:

$T = +25\text{ °C} \pm 2\text{ °C}$

Terminating source impedance:

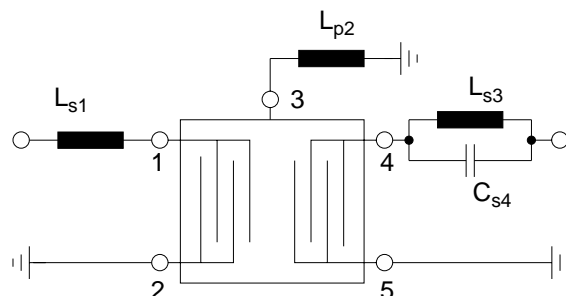
$Z_S = 50\ \Omega$ and matching network

Terminating load impedance:

$Z_L = 50\ \Omega$ and matching network

| | | min. | typ. @ 25 °C | max. | |
|--------------------------------------|-----------------|------|-----------------|------|-----|
| Nominal center frequency | f_N | — | 897.50 | — | MHz |
| Minimum insertion attenuation | α_{\max} | — | 1.0 | 1.2 | dB |
| 470.00 ... 798.00 MHz | | — | 1.0 | 1.2 | dB |
| Maximum insertion attenuation | α_{\max} | — | 1.6 | 1.9 | dB |
| 470.00 ... 750.00 MHz | | — | 1.6 | 1.9 | dB |
| 750.00 ... 798.00 MHz | | — | 2.1 | 2.4 | dB |
| Attenuation | α | | | | |
| 47.00 ... 68.00 MHz | | 58.0 | 66.0 | | dB |
| 174.00 ... 230.00 MHz | | 28.0 | 30.0 | — | dB |
| 880.00 ... 915.00 MHz | | 44.0 | 48.0 | — | dB |
| 1710.00 ... 1785.00 MHz | | 32.0 | 37.0 | — | dB |
| 1920.00 ... 1980.00 MHz | | 48.0 | 54.0 | — | dB |
| Group delay ripple (p-p) | $\Delta\tau$ | | | | |
| 470.00 ... 750.00 MHz | | — | 4 | — | ns |
| 470.00 ... 798.00 MHz | | — | 6 | — | ns |

Matching network



$L_{s1} = 18\text{ nH}$

$L_{p2} = 20\text{ nH}$

$L_{s3} = 13\text{ nH}$

$C_{s4} = 0.50\text{ pF}$

Q factor of inductors:
40 @ 770 MHz



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Characteristics

Temperature range for specification:

$T = -30\text{ °C to }+85\text{ °C}$

Terminating source impedance:

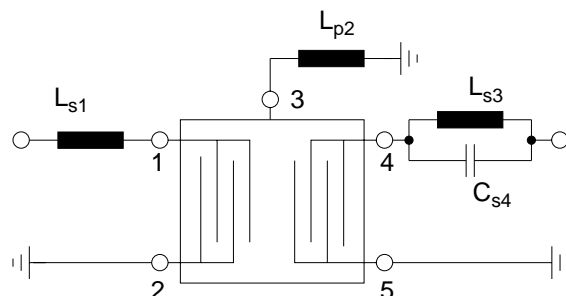
$Z_S = 50\ \Omega$ and matching network

Terminating load impedance:

$Z_L = 50\ \Omega$ and matching network

| | | min. | typ. @ 25 °C | max. | |
|--------------------------------------|-----------------|------|-----------------|------|-----|
| Nominal center frequency | f_N | — | 897.50 | — | MHz |
| Minimum insertion attenuation | α_{\max} | — | 1.0 | 1.3 | dB |
| 470.00 ... 798.00 MHz | | — | 1.0 | 1.3 | dB |
| Maximum insertion attenuation | α_{\max} | — | 1.6 | 2.0 | dB |
| 470.00 ... 750.00 MHz | | — | 1.6 | 2.0 | dB |
| 750.00 ... 798.00 MHz | | — | 2.1 | 2.6 | dB |
| Attenuation | α | | | | dB |
| 47.00 ... 68.00 MHz | | 52.0 | 66.0 | | dB |
| 174.00 ... 230.00 MHz | | 25.0 | 30.0 | — | dB |
| 880.00 ... 915.00 MHz | | 42.0 | 48.0 | — | dB |
| 1710.00 ... 1785.00 MHz | | 30.0 | 37.0 | — | dB |
| 1920.00 ... 1980.00 MHz | | 45.0 | 54.0 | — | dB |
| Group delay ripple (p-p) | $\Delta\tau$ | | | | ns |
| 470.00 ... 750.00 MHz | | — | 4 | — | ns |
| 470.00 ... 798.00 MHz | | — | 6 | — | ns |

Matching network



$L_{s1} = 18\text{ nH}$

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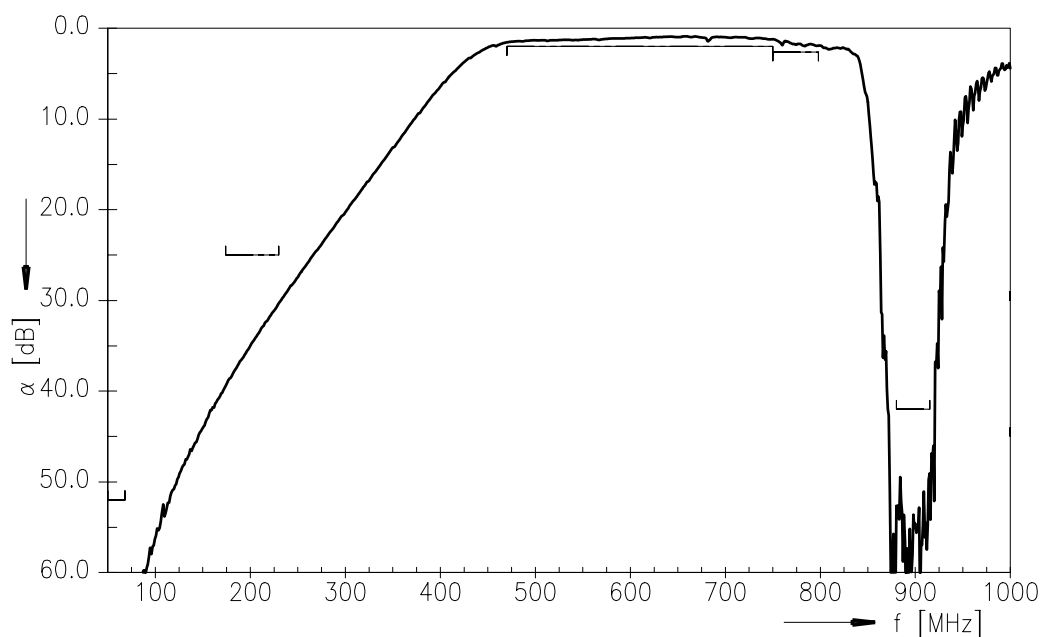


Maximum ratings

| | | | | |
|----------------------------|------------------|-------------------|-----|---|
| Operable temperature range | T | -30/+85 | °C | |
| Storage temperature range | T _{stg} | -40/+85 | °C | |
| DC voltage | V _{DC} | 5 | V | |
| ESD voltage | V _{ESD} | 100 ¹⁾ | V | machine model, 10 pulses |
| Source power at | | | | |
| 824.00 ... 849.00 MHz | P _S | 24 | dBm | peak power of GSM signal, duty cycle 4:8 |
| 880.00 ... 915.00 MHz | | | | |

¹⁾ according to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

Transfer function





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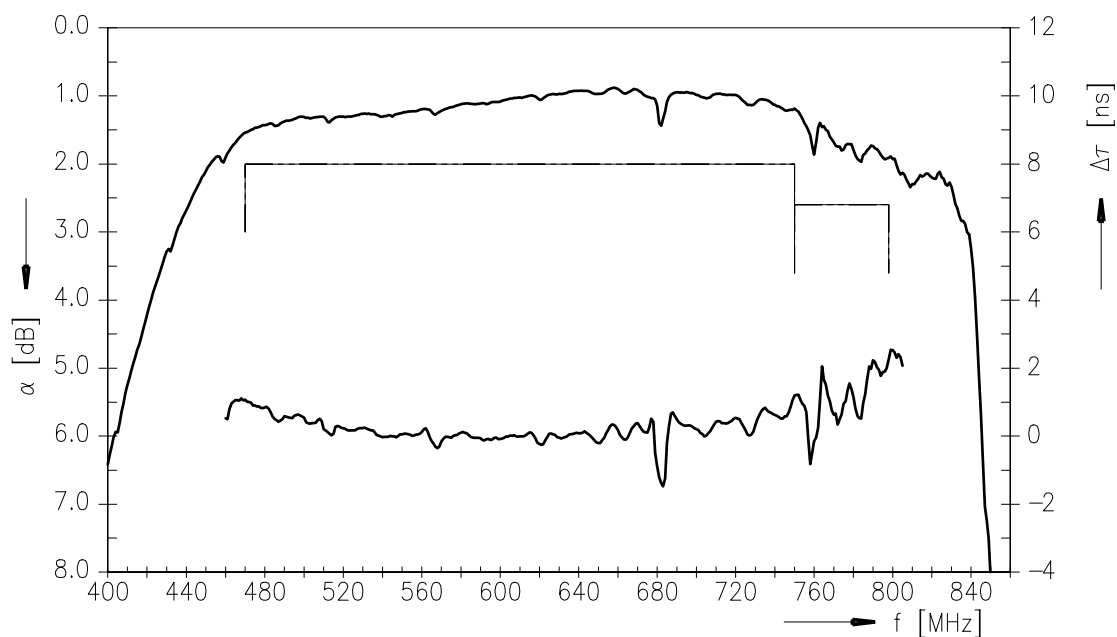
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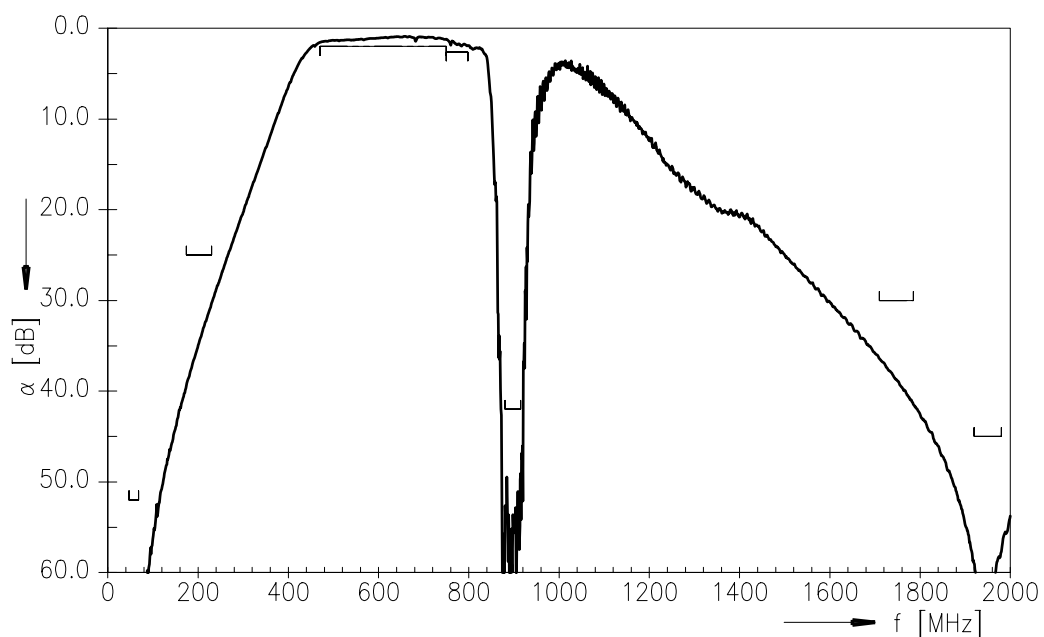
Data Sheet



Transfer function (pass band)



Transfer function (wide band)



Please read *cautions and warnings* and *important notes* at the end of this document.

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**References**

| | |
|----------------------------|--|
| Type | B8763 |
| Ordering code | B39901-B8763-P810 |
| Marking and package | C61157-A8-A9 |
| Packaging | F61074-V8212-Z000 |
| Date codes | L_1126 |
| S-parameters | LP92H_WB_UN.s3p (unmatched) LP92H_WB.s2p (matched) |
| Soldering profile | S_6001 |
| RoHS compatible | defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment." |
| Moldability | Before using in overmolding environment, please contact your EPCOS sales office. |
| Matching coils | See http://www.tdk.co.jp/tefe02/coil.htm#aname1 http://www.tdk.co.jp/etvcl/index.htm for a large variety of matching coils. |

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

Published by EPCOS AG**Surface Acoustic Wave Components Division****P.O. Box 80 17 09, 81617 Munich, GERMANY**

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